

Dr Raymond Osborn

**Materials Science Division,
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Argonne, IL 60439-4845**

Address: 5928 Northgate Court, Woodridge, IL 60517

Date of Birth: October 10, 1957 **Nationality :** USA

Marital Status: Married, 3 children

Education: 1976–1979
Imperial College of Science and Technology,
University of London, London, United Kingdom

1979–1982
University of Southampton, Southampton, United Kingdom
(with scholarship from the Institut Laue Langevin, Grenoble, France)

Qualifications: B.Sc (1st Class Honors), A. R. C. S., Physics (Imperial College)
Ph.D (Department of Physics, Southampton)

Employment: Research Associate, 1982–1985
Clarendon Laboratory
University of Oxford
Oxford, OX1 3PU
United Kingdom

Higher Scientific Officer, 1985–1989
Senior Scientific Officer, 1989–1991
Principal Scientific Officer, 1991–1992
ISIS Pulsed Neutron and Muon Facility
Rutherford Appleton Laboratory
Chilton, Oxon, OX11 0QX
United Kingdom

Physicist, 1992–2006
Group Leader, Neutron & X-ray Scattering Group, 2006–2011

Senior Scientist, 2012-present
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Honors

- Fellow of the American Physical Society
- Fellow of the Neutron Scattering Society of America
- University of Chicago Distinguished Performance Award (2006)

Professional Service:

- Chair, “1st Workshop on Software Development at Neutron Scattering Sources (SoftNeSS’94)”, Argonne National Laboratory, October 6–7, 1994
- Chair, “3rd Workshop on Software Development at Neutron Scattering Sources (SoftNeSS’96)”, Argonne National Laboratory, October 14–18, 1996
- Member, ISIS Scheduling Panel for Inelastic Neutrons, Rutherford Appleton Laboratory, UK, 1996–2000
- Member, IPNS Program Advisory Committee, Argonne National Laboratory, IL, 1996-1999
- Member, Program Committee, 8th Joint MMM/Intermag Conference, San Antonio, TX, January 7-11, 2001.
- Scientific Director, National School of Neutron and X-ray Scattering, 2001–2007 (An annual DOE-funded summer school for 60 US graduate students at Argonne)
- Chair, Publication Committee, International Conference on Strongly Correlated Electron Systems (SCES’2001), Ann Arbor, MI, August 6–10, 2001.
- Chair, NeXus International Advisory Committee, 2003–2006 (Overseeing development of a data format standard for neutrons and x-rays with representatives of thirteen international large-scale facilities).
- Member, International Advisory Board, International Conference on Strongly Correlated Electron Systems (SCES’2005), Vienna, July 25–30, 2005.
- Member, Publication Committee, International Conference on Neutron Scattering (ICNS’2005), Sydney, November 27–December 2, 2005.
- Member, Executive Committee, ARCS Instrument Development Team, Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, TN, 2005–present
- Organizer, Workshop on “Competing Interactions and Colossal Responses in Transition Metal Compounds,” Telluride, CO, July 16–22, 2006
- Member, International Advisory Committee, International Collaboration on Advanced Neutron Sources (ICANS-XIX), Grindelwald, Switzerland, March 8–12, 2010

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- Member, International Advisory Committee, International Conference on Strongly Correlated Electron Systems (SCES'2010), Santa Fé, NM, June 27–July 2, 2010
- Member, International Advisory Committee, Workshop on “New Opportunities for Better User Group Software” (NOBUGS), Gatlinburg, TN, October 10-13, 2010
- Member, ISIS Facility Access Panel for Muons, Rutherford Appleton Laboratory, UK, June 2008–June 2011
- Member, International Advisory Committee, International Collaboration on Advanced Neutron Sources (ICANS-XX), Bariloche, Argentina
March 4–9, 2012
- Member, ORNL Neutron Science Review Committee, Oak Ridge National Laboratory, TN, April 2013–Present

Invited Talks

- 1) “High Resolution Neutron Scattering Investigation of the Crystal Field Splittings in UO_2 ”
Workshop on Fundamental Properties of UO_2 and Actinide Oxides,
Proceedings of the Polar Solids Discussion Group, Royal Society of Chemistry
March 24, 1986, Oxford, UK
- 2) “Inelastic Magnetic Scattering on HET”
Workshop on Scientific Opportunities using the Pulsed Neutron Facility ISIS
June 29–July 3, 1987, Turin, Italy
- 3) “High Energy Magnetic Inelastic Scattering at ISIS”
Workshop on X-Ray and Neutron Scattering from Magnetic Materials
November 6–7, 1987, Argonne, IL
- 4) “High Energy Magnetic Neutron Scattering in Heavy Fermion Compounds”
International Conference on the Physics of Highly Correlated Electron Systems
September 11–15, 1989, Santa Fé, NM
- 5) “Neutron Scattering Studies of Intermultiplet Transitions in Rare Earths and Actinides”
VI International School of Neutron Physics
October 8–18, 1990, Alushta, USSR
- 6) “Influence of the Superconducting Energy Gap on the Linewidths of Crystal Field Transitions in High- T_c Superconductors”
International Conference on Neutron Scattering
August 27–30, 1991, Oxford, UK

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- 7) “Crystal Fields as a Probe of Rare–Earth Intermetallic Compounds”
Magnetic Materials—Structures and Excitations Symposium
IOP Condensed Matter and Materials Physics Conference
December 17–19, 1991, Birmingham, UK
- 8) “Crystal Fields as a Local Probe of the Atomic and Electronic Structure of Ceramic Superconductors”
November 23, 1993, A.T.&T. Bell Laboratories, New Jersey
- 9) “Rare Earth Crystal Fields as a Probe of the Atomic and Electronic Structure of High T_c Materials”
Materials Science Division Colloquium,
Dec 8, 1993, Argonne National Laboratory, IL
- 10) “Marginal Fermi Liquid Scaling in $UCu_{5-x}Pd_x$ ”
James Franck Laboratory Seminar
May 6, 1994, University of Chicago
- 11) “Non–Fermi Liquid Scaling of the Magnetic Response of $UCu_{5-x}Pd_x$ ”
Institut Laue–Langevin Seminar, France,
Dec 12, 1994, Grenoble, France
- 12) “Non-Fermi Liquid Scaling of the Magnetic Response of $UCu_{5-x}Pd_x$ ”
Quantum Impurity Problems Workshop
February 24–26, 1995, University of Florida, Gainesville, FL
- 13) “NeXus – A common data format for neutron and X–ray data”
Joint ILL–ESRF Workshop on “New Opportunities for Better User Group Software”
January 10–12, 1996, Grenoble, France
- 14) “Non-Fermi Liquid Effects in f-Electron Materials”
1996 March Meeting of the American Physical Society
March 18–22, 1996, St. Louis, MO
- 15) “Magnetic Inelastic Neutron Scattering – Present Results and Future Trends”
International Workshop on Science in Neutron-arena of JHP
March 26–27, 1996, Tsukuba, Japan
- 16) “Quantum Critical Scattering in Uranium Compounds”
Neutron Scattering Satellite Meeting of the XVII International Union of Crystallography Congress
August 5–7, 1996, National Institute of Standards and Technology, MD

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- 17) “Magnetic correlations above T_C in layered manganites”
Workshop on Magnetoresistive Oxides
July 13–18, 1998, Telluride, CO
- 18) “Heavy Fermion and Non-Fermi Liquid Physics”
1998 Annual Meeting of the Los Alamos Neutron Science Center User Group
August 10–12, 1998, Los Alamos National Laboratory, NM
- 19) “The Link Between Magnetic and Charge Correlations in Naturally Layered Manganites”
1999 JRCAT Workshop on Complex Phenomena of Correlated Electrons in Oxides
May 26–29, 1999, Hawaii
- 20) “The role of Magnetic and Charge Correlations in the CMR of Naturally Layered Manganites”
Workshop on the Science and Technology of Magnetic Oxides’99
La Jolla International School of Physics
July 5–7, 1999, La Jolla, CA
- 21) “Time-of-Flight Inelastic Neutron Scattering”
National School for Neutron and X-ray Scattering
August 16–27, 1999, Argonne National Laboratory, IL
- 22) “Spiral Magnetic Correlations in CMR Layered Manganites”
CMR Manganites and Related Transition Metal Oxides
July 16–22, 2000, Telluride, CO
- 23) “Phonons and Superconductivity in MgB_2 ”
2002 March Meeting of the American Physical Society
March 18–22, 2002, Indianapolis, IN
- 24) “Probing the Polaronic State of Layered CMR Manganites”
Basic Energy Sciences Synchrotron Radiation Center Third Users Meeting
May 3, 2002, Argonne, IL
- 25) “Nanoscale Frustration: Competing Charge, Orbital, and Magnetic Order in Layered CMR Manganites”
2002 Annual Meeting of the American Crystallographic Association
May 25–30, 2002, San Antonio, TX
- 26) “Competing Charge, Orbital, and Magnetic Order in Layered CMR Manganites”
Second ORNL Nanophase Materials Sciences Workshop: Symposium on Nanoscience and Neutron Scattering
June 23–25, 2002, Knoxville, TN

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- 27) “Competing Charge, Orbital, and Magnetic Order in Layered CMR Manganites”
American Conference on Neutron Scattering
June 23–27, 2002, Knoxville, TN
- 28) “Orbital Correlations in Transition Metal Oxides”
Novel Quantum Phenomena in Transition Metal Oxides
August 29–31, 2002, Sendai, Japan
- 29) “Quantum Critical Scaling in $UCu_{5-x}Pd_x$ ”
Workshop on Non-Fermi Liquid Behavior and Quantum Phase Transitions
Leiden University, Leiden, the Netherlands, May 12–23, 2003.
- 30) “Polarized Neutron Studies of Quantum Critical Scaling”
Workshop on Polarised Neutrons and Synchrotron X-rays for Magnetism
Venice, Italy, August 4–6, 2003
- 31) “Inelastic Magnetic Scattering”
LANSCE Neutron Scattering Winter School on Magnetism
Los Alamos, NM, January 9–16, 2004
- 32) “Neutron Scattering Data Analysis: A US Perspective”
Workshop on Data Visualisation, Reduction and Analysis at Australia’s
Replacement Research Reactor
Lucas Heights, Australia, March 30–31, 2004
- 33) “Prospects for Single Crystal Diffuse Scattering with Elastic Discrimination”
American Conference on Neutron Scattering
College Park, MD, June 6–10, 2004
- 34) “Orbital Correlations in a Layered Ruthenate”
Workshop on Colossal Magnetoresistive and Related Transition Metal Oxides,
Telluride, CO, June 28–July 5, 2004
- 35) “Spin and Lattice Correlations in Bilayer Manganites”
Workshop on Colossal Magnetoresistive and Related Transition Metal Oxides
Telluride, CO, June 28–July 5, 2004
- 36) “Spin Correlations and the Orbital Phase Transition in $La_4Ru_2O_{10}$ ”
IOP Theoretical Magnetism Workshop
Abingdon, UK, July 22–23, 2004
- 37) “High Energy X-ray Diffuse Scattering”
Workshop on Science with High-Energy X-rays
Argonne, IL, August 9–10, 2004

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- 38) “The Coupling of Spin and Orbital Degrees of Freedom in a Layered Ruthenate: An Inelastic Neutron Scattering Study”
2004 MRS Fall Meeting
Boston, MA, November 29–December 3, 2004
- 39) “Corelli: Single Crystal Diffraction with Elastic Discrimination”
International Conference on Neutron Scattering
Sydney, Australia, November 27–December 2, 2005
- 40) “The Origin of Polaron Correlations in Bilayer Manganites”
IOP Meeting on Theoretical and Experimental Magnetism
Abingdon, UK, August 3–4, 2006
- 41) “Neutron Scattering as a Probe of Complex Disorder”
Nuclear Science and Engineering Colloquium
University of California, Berkeley, CA, November 19, 2007
- 42) “Spin glass order induced by dynamic frustration in PrAu_2Si_2 ”
IOP Meeting on Theoretical and Experimental Magnetism
Abingdon, UK, August 12, 2008
- 43) “Resonant Spin Excitations in Iron Arsenide Superconductors”
International Workshop on Iron Related high- T_c Superconductors (IRiSes2009)
Tokyo, Japan, January 25, 2009
- 44) “Corelli: Single Crystal Diffraction with Elastic Discrimination”
J-PARC Seminar
Tokai, Japan, January 26, 2009
- 45) “Unconventional Superconductivity in Iron Arsenides”
Illinois Institute of Technology Symposium
Chicago, IL, March 5, 2009
- 46) “Resonant Spin Excitations in $\text{Ba}_{0.6}\text{K}_{0.4}\text{Fe}_2\text{As}_2$ ”
IOP Meeting on Theoretical and Experimental Magnetism
Abingdon, UK, July 2-3, 2009
- 47) “Resonant Spin Excitations in Iron Arsenide Superconductors”
Workshop on Competing Interactions and Colossal Responses in Transition Metal Compounds
Telluride, CO, August 10-14, 2009
- 48) “Dynamic Frustration in PrAu_2Si_2 ”
Brockhouse Institute Colloquium, McMaster University
Hamilton, Ontario, Canada, November 16, 2010

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- 49) “Dynamic Frustration in PrAu_2Si_2 ”
Quantum Matters Seminar, University of Waterloo
Waterloo, Ontario, Canada, November 17, 2010
- 50) “Resonant Spin Excitations in Iron Arsenide Superconductors”
Max Planck Institute for the Physics of Complex Systems
Dresden, Germany, February 25, 2010
- 51) “A Python-based approach to interactive x-ray and neutron data analysis”
NSLS-II workshop on Scientific Computing at Modern Synchrotron Facilities
Brookhaven National Laboratory, NY, April 20–21, 2010
- 52) “The Doping Dependence of Resonant Spin Excitations in $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$ ”
Workshop on Emergent Quantum States in Complex Correlated Matter
Dresden, Germany, August 23 - 27, 2010
- 53) “Unconventional Superconductivity Cast in Iron”
Physics Department Colloquium, Temple University
Philadelphia, April 18, 2011
- 54) “Unconventional Superconductivity Cast in Iron”
25th Anniversary Symposium of EPL
Munich, Germany, May 2-4, 2011
- 55) “Fermi Surface Nesting in Arsenides and Chalcogenides”
IOP Meeting on Theoretical and Experimental Magnetism
Abingdon, UK, June 16-17, 2011
- 56) “The role of Fermi surface nesting in the iron-based superconductors”
Workshop on Competing Interactions and Colossal Responses in Transition Metal
Compounds
Telluride, CO, July 18-22, 2011
- 57) “The Effect of Fermi Surface Nesting on Resonant Spin Excitations in $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$ ”
13th International Workshop on Vortex Matter in Superconductors
Chicago, July 31-August 5, 2011
- 58) “Unconventional Superconductivity Cast in Iron”
Physics Department Colloquium, University of Central Florida
Orlando, FL, September 23, 2011
- 59) “Fermi surface nesting in iron-based superconductors”
Condensed Matter and Materials Physics (CMMP11)
Manchester, UK, December 13-15, 2011

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- 60) “Neutrons as a Probe of Electronic Structure”
ESS Symposium on Spin Dynamics
Abingdon, UK, February 23-24, 2012
- 61) “Resonant Spin Excitations in Hole-Doped BaFe₂As₂”
Beijing Institute of Physics, Chinese Academy of Sciences
Beijing, China, June 5, 2012
- 62) “Diffuse Neutron Scattering as a Probe of Mesoscopic Structure”
BIT's 1st Annual World Congress of Advanced Materials-2012 (WCAM 2012)
Beijing, China, June 6-8, 2012
- 63) “Progress in Measuring S(Q,ω) in 4 Dimensions Using the Sweep Mode”
American Conference on Neutron Scattering (ACNS 2012)
Washington, DC, June 24-28, 2012
- 64) “Unconventional superconductivity in hole-doped BaFe₂As₂ from inelastic neutron scattering”
Materials and Mechanisms of Superconductivity Conference (M²S 2012)
Washington, DC, July 29-August 3, 2012
- 65) “Software Institute Concepts”
Workshop on Scientific Workflows for Scattering Science
January 31–February 2, California Institute of Technology, Pasadena, CA
- 66) “Neutron Scattering as a Probe of Fermi Surface Nesting in Iron-Based Superconductors”
2013 March Meeting of the American Physical Society
March 18–22, 2013, Baltimore, MD
- 67) “Single-crystal Diffuse Scattering Using High-energy X-rays”
Symposium on High-energy X-rays on Single Crystals: A Unique Capability at the APS
APS/CNM Users Meeting 2013
May 8, 2013, Argonne, IL
- 68) “Novel Magnetic States Close to the Quantum Phase Transition in Iron Pnictides”
Workshop on Quantum Criticality in Correlated Materials and Model Systems
July 21–31, 2014, Natal, Brazil
- 69) “A New Magnetic Phase in Hole-Doped BaFe₂As₂: Implications for the Origin of Nematicity”
2015 March Meeting of the American Physical Society
March 2–6, 2015, San Antonio, TX

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- 70) "Single-crystal Diffuse Scattering: Big Data Beyond the Workflow"
Workshop on Experimental and Computational Challenges of *in situ* Multimodal Imaging of Energy Materials
APS/CNM Users Meeting 2015
May 13, 2015, Argonne, IL
- 71) "A Reentrant C_4 Phase in Hole-Doped $BaFe_2As_2$ "
11th International Conference on Materials & Mechanisms of Superconductivity
August 23-28, 2015, Geneva, Switzerland
- 72) "Advances in Single Crystal Diffuse Scattering"
2015 Taiwan NSRRC Users' Meeting and Workshops
September 9-10, 2015, Hsinchu, Taiwan
- 73) "Evidence for Itinerant Magnetism in the C_4 Phase of Hole-Doped Iron Arsenides"
International Conference on Spectroscopies in Novel Superconductors
June 19-24, 2016, Stuttgart, Germany
- 74) "Future Opportunities for Single Crystal Diffuse Scattering"
Workshop on Defects, Distortions, and Dynamics in complex materials
June 27-28, 2016, Cornell University, Ithaca, NY
- 75) "Probing Nanoscale Disorder in Functional Materials"
Materials Science and Data Technology Nexus Meeting,
September 21, 2016, Santa Fé, NM
- 76) "Imaging Nanoscale Disorder in Reciprocal Space"
APS Colloquium
January 11, 2017, Argonne, IL
- 77) "Unconventional Superconductivity Cast in Iron"
Instituto de Ciencia de Materiales de Madrid
March 30, 2017, Madrid, Spain
- 78) "3D Fourier Methods on *Corelli*"
Workshop on Advanced Fourier Methods: Dynamic PDF and Beyond
May 5, 2017, Oak Ridge, TN

Publications

1. J. S. Abell, J. X. Boucherle, R. Osborn, B. D. Rainford and J. Schweizer
“Polarized neutron study of the intermetallic compound $GdAl_2$ ”
Journal of Magnetism and Magnetic Materials **31–34**, 247 (1983)
2. K. Clausen, W. Hayes, M. T. Hutchings, J. E. Macdonald, R. Osborn and P. G. Schnabel
“Investigation of oxygen disorder, thermal parameters, lattice vibrations and elastic constants of UO_2 and ThO_2 at temperatures up to 2930K”
Revue de la Physique Appliqué **19**, 719 (1984)
3. K. Clausen, W. Hayes, J. E. Macdonald, R. Osborn and M. T. Hutchings
“Observation of oxygen Frenkel disorder in uranium dioxide above 2000K by use of neutron-scattering techniques”
Physical Review Letters **52**, 1238 (1984)
4. N. H. Andersen, K. Clausen, M. A. Hackett, W. Hayes, M. T. Hutchings, J. E. Macdonald and R. Osborn
“Coherent neutron scattering investigation of the defect structure of yttria-stabilized zirconia”
Transport–Structure Relations in Fast Ion and Mixed Conductors (Risø, Denmark, 1985) p. 279
5. M. T. Hutchings, K. Clausen, W. Hayes, J. E. Macdonald, R. Osborn and P. G. Schnabel
“Oxygen Frenkel disorder in UO_2 and ThO_2 observed above 2000K using neutron scattering techniques”
High Temperature Science **20**, 97 (1985)
6. K. Clausen, W. Hayes, M. T. Hutchings, J. K. Kjems, J. E. Macdonald and R. Osborn
“Lattice dynamics and elastic constants of uranium dioxide at high temperatures investigated by neutron scattering”
High Temperature Science **19**, 189 (1985)
7. J. E. Macdonald, K. Clausen, B. Garrard, M. A. Hackett, W. Hayes, R. Osborn, P. G. Schnabel and M. T. Hutchings
“Thermally induced Frenkel disorder in UO_2 and ThO_2 ”
High Temperatures – High Pressures **17**, 27 (1985)

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8. N. H. Andersen, K. Clausen, M. A. Hackett, W. Hayes, M. T. Hutchings, J. E. Macdonald and R. Osborn
“The defect structure of yttria-stabilized zirconia, studied by quasielastic diffuse neutron scattering”
Physica B **136**, 315 (1986)
9. R. Osborn, N. H. Andersen, K. Clausen, M. A. Hackett, W. Hayes, M. T. Hutchings and J. E. Macdonald
“Neutron scattering investigation of the defect structure of Y_2O_3 -stabilized ZrO_2 and its dynamical behavior at high temperatures”
Materials Science Forum **7**, 55 (1986)
10. R. Osborn, B. C. Boland, Z. A. Bowden, A. D. Taylor, M. A. Hackett, W. Hayes and M. T. Hutchings
“A high resolution neutron scattering investigation of the crystal field splittings of UO_2 ”
Journal of the Chemical Society: Faraday Transactions II **83**, 1105–1108 (1987)
11. K. Clausen, W. Hayes, J. E. Macdonald, R. Osborn, P. G. Schnabel, M. T. Hutchings and A. Magerl
“Inelastic neutron scattering investigation of the lattice dynamics of ThO_2 and CeO_2 ”
Journal of the Chemical Society: Faraday Transactions II **83**, 1109–1112 (1987)
12. R. Osborn, M. Loewenhaupt, B. D. Rainford and W. G. Stirling
“Magnons in $CeAl_2$ ”
Journal of Magnetism and Magnetic Materials **63&64**, 70 (1987)
13. R. Osborn, M. Hagen, D. L. Jones, W. G. Stirling, G. H. Lander, K. Mattenberger and O. Vogt
“High energy magnetic inelastic neutron scattering on USb and UTe ”
Journal of Magnetism and Magnetic Materials **76&77**, 429–431 (1988)
14. G. Amoretti, A. Blaise, J. M. Fournier, R. Caciuffo, J. Larroque, R. Osborn, A. D. Taylor and Z. A. Bowden
“Crystal field excitations in UOS”
Journal of Magnetism and Magnetic Materials **76–77**, 432–434 (1988)
15. R. Caciuffo, G. Amoretti, A. Blaise, J. M. Fournier, M. T. Hutchings, J. Larroque, R. Osborn and A. D. Taylor
“High energy neutron spectroscopy study of the electronic configuration in crystal–field-split 5f systems”
Neutron Scattering at ISIS: Recent Highlights in Condensed Matter Research (Rome, 1988)

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16. S. Hull, N. H. Andersen, K. Clausen, T. W. D. Farley, M. A. Hackett, W. Hayes, M. T. Hutchings, R. Osborn and W. G. Stirling
“Quasielastic diffuse neutron scattering from yttria stabilized zirconia at elevated temperatures”
Solid State Ionics **28–30**, 488 (1988)
17. R. Osborn, A. D. Taylor, Z. A. Bowden, M. A. Hackett, W. Hayes, M. T. Hutchings, G. Amoretti, R. Caciuffo, A. Blaise and J. M. Fournier
“High-resolution neutron spectroscopy of crystal-field excitations in uranium dioxide”
Journal of Physics C **21**, L931–L937 (1988)
18. L. Rosta, G. Hutiray, R. Bellissent, A. Menelle, F. Mezei, A. D. Taylor, R. Osborn and Z. A. Bowden
“Neutron scattering study of the vibrational density of states of high- T_c superconductors”
Physica C **153–155**, 268 (1988)
19. A. D. Taylor, Z. A. Bowden, C. J. Carlile, M. E. Hagen, A. C. Hannon, R. S. Holt, J. Mayers, R. Osborn, M. P. Paoli, S. T. Robertson, A. Smith, U. Steigenberger, J. Tomkinson and W. G. Williams
“Developments in inelastic instrumentation at ISIS”
Advanced Neutron Sources, edited by D. K. Hyer (IOP Conference Series, 1988), Vol. 97, p. 271
20. A. D. Taylor, R. Osborn, K. A. McEwen, W. G. Stirling, Z. A. Bowden, W. G. Williams, E. Balcar and S. W. Lovesey
“Intermultiplet transitions in praseodymium using neutron spectroscopy”
Physical Review Letters **61**, 1309–1312 (1988)
21. G. Amoretti, A. Blaise, R. Caciuffo, J. M. Fournier, M. T. Hutchings, R. Osborn and A. D. Taylor
“5f-electron states in uranium dioxide investigated using high-resolution neutron spectroscopy”
Physical Review B **40**, 1856–1870 (1989)
22. G. Amoretti, A. Blaise, R. Caciuffo, J. M. Fournier, J. Larroque and R. Osborn
“A neutron spectroscopy study of magnetic excitations in uranium oxysulphide”
Journal of Physics: Condensed Matter **1**, 5711–5720 (1989)
23. G. Amoretti, R. Caciuffo, A. Blaise, J. M. Fournier, M. T. Hutchings, R. Osborn and A. D. Taylor
“High energy neutron spectroscopy in crystal field split 5f systems”
Helvetica Physica Acta **62**, 786 (1989)

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24. R. Bellissent, A. Menelle, Z. A. Bowden, R. Osborn, A. D. Taylor, G. Hutiray, L. Rosta and F. Mezei
“VDOS dependence on oxygen concentration in the high- T_c system $YBa_2Cu_3O_{6+x}$ by inelastic neutron scattering”
Physica B **156–157**, 912 (1989)
25. E. A. Goremychkin, R. Osborn and A. D. Taylor
“Effect of energy gap in the high- T_c superconductor $Tm_{0.1}Y_{0.9}Ba_2Cu_3O_{6.9}$ ”
JETP Letters **50**, 380 (1989)
26. O. Moze, K. H. J. Buschow, R. Osborn, Z. A. Bowden and A. D. Taylor
“Crystal field excitations in $ErMn_4Al_8$ ”
Solid State Communications **72**, 249 (1989)
27. R. Osborn
“High energy magnetic inelastic neutron scattering at ISIS”
Physica B **159**, 151–160 (1989)
28. S. Abis, R. Caciuffo, F. Carsughi, R. Coppola, R. K. Heenan, R. Osborn and M. Stefanon
“A small angle neutron scattering study of the δ' - Al_3Li coarsening in a Al-Li alloy”
Physica B **156–157**, 68–71 (1989)
29. S. M. Bennington, D. K. Ross, M. J. Benham, A. D. Taylor, Z. A. Bowden and R. Osborn
“The effects of crystal symmetry on the hydrogen excitations in α - YH_x observed with inelastic neutron scattering”
Physics Letters A **151**, 325 (1990)
30. R. Osborn, K. A. McEwen, E. A. Goremychkin and A. D. Taylor
“High energy magnetic neutron scattering in heavy fermion compounds”
Physica B **163**, 37–40 (1990)
31. M. Kohgi, T. Satoh, K. Ohoyama, M. Arai and R. Osborn
“Crystal field excitations in $CeSi_x$ ”
Physica B **163**, 137–140 (1990)
32. A. T. Boothroyd, S. M. Doyle, D. M. Paul, D. S. Misra and R. Osborn
“Crystal field excitations in $Nd_{2-x}Ce_xCuO_4$ ”
Physica C **165**, 17–24 (1990)
33. A. T. Boothroyd, S. M. Doyle, M. P. Sridhar Kumar, D. M. Paul and R. Osborn
“Crystal fields in $Nd_{2-x}Sr_xNiO_{4+y}$ ”
Journal of the Less-Common Metals **164&165**, 915 (1990)

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34. K. Hirakawa, R. Osborn, A. D. Taylor and K. Takeda
“Neutron inelastic scattering study of LiNiO_2 : a candidate for the spin quantum liquid”
Journal of the Physical Society of Japan **59**, 3081 (1990)
35. O. Moze, R. Caciuffo, H.-S. Li, B.-P. Hu, J. M. D. Coey, R. Osborn and A. D. Taylor
“Observation of intermultiplet transitions in $\text{SmFe}_{11}\text{Ti}$ by inelastic neutron scattering”
Physical Review B **42**, 1940–1943 (1990)
36. M. Arai, A. D. Taylor, S. M. Bennington, Z. A. Bowden, R. Osborn, M. Kohgi, K. Ohoyama and T. Nakane
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